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U.S. DEPT. OF AGRICULTURE

Our remaining *Land*



We can use it and save it

SOIL CONSERVATION SERVICE
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OUR REMAINING LAND

We Can Use It and Save It

By the Soil Conservation Service

Land—productive land on which good crops, pastures, or forests will grow—is the most valuable resource on earth. Whether you live in the city or the country, the land feeds and clothes you and gives you most of the other things you use.

Productive land is essential to the well-being of any nation and the people living in the nation. Most nations do not have enough good land now; they have wasted too much of it in the past. We are more fortunate in the United States; but, even here, we do not have any to spare. And, we have been destroying our good land at a prodigal rate.

Good topsoil and water are the main things that make land productive. You cannot make fertile topsoil in a few years on most land. It takes nature centuries to do it. But topsoil can be removed from good land in a few years by careless farm-

ing; it has been removed or severely damaged on millions of acres of our American land.

When the topsoil is gone, the productivity of the land is usually gone; then the people who depend on that land have poorer diets and a lower standard of living. That is why the conservation of our good land is important to everyone.

Here are some facts and figures about the land that's left—how we can use it and still save it.

SOIL EROSION

Soil is not permanent. Under many conditions it is very unstable. When water or wind move across bare ground they usually carry some soil with them. They may move it hundreds of miles or only a few feet, but eventually they will remove large amounts of soil from any area where it isn't tied down.

Dense plant growth helps to slow down the movement of soil by water or wind. This gives nature time to replace what little soil is removed by erosion. Nature does this by forming new topsoil from the underlying subsoil or rock and the decayed remains of plants and animals. This slow process of constant erosion and new soil formation is known as "natural erosion," or "geologic erosion." It has been going on for millions of years; it is usually beneficial instead of harmful. Most of our good agricultural soils were formed this way.

But where land is cultivated or left bare, another and faster kind of erosion usually takes place. This is accelerated erosion. When land is cultivated there is no dense growth of plants to protect the soil, and erosion may be a thousand times faster than on protected land. Accelerated erosion also damages grasslands where the grass is thinned by overgrazing. And it damages woodlands that are mismanaged. This is what we now know as soil erosion. Unless it is checked, it may ruin most of our good land.

The Damage Done by Soil Erosion

Erosion has damaged or ruined for practical use hundreds of millions of acres of once-productive land all over the world. In

some places, such as North Africa, the Near East, and parts of China, erosion has ruined so much of the land that formerly rich agricultural areas are now almost like deserts. Erosion



has taken a terrific toll from formerly rich lands even here in the United States.

Erosion has severely damaged about 280 million acres of the crop and grazing land in the United States; 280 million acres is equal to the combined areas of Illinois, Iowa, Missouri, Kansas, Nebraska, and Wyoming. And another 775 million acres of our crop, grazing, and forest land has eroded to some extent. We now have left about 460 million acres of good land that is suitable for crops. This includes, besides land now in crops, about 85 million acres that need clearing, draining, irrigating, or other improvements to make them productive. That's all we have left; we can't discover or create any more. And all but about 95 million of this 460 million acres is subject to erosion if it is not protected.

We still have enough good land left in the United States to support us; but we can't keep our present standard of living if we lose much more. Yet we are allowing about a half million acres to go to ruin each year, through erosion.

SOIL CONSERVATION

Soil conservation is the proper use and care of the land. It means using the land to produce the greatest amounts of the things most needed, and at the same time protecting it so it will not lose its productivity. Each field or acre must be used for things it is best suited to do and must be protected according to its needs.

All measures that help keep the land productive are tools of conservation. Terraces, contours, organic matter, cover crops, grass, crop rotations, fertilizers, legumes, strip crops, shrubs, trees, stubble mulch, drainage, irrigation, and many other measures are conservation tools. Soil conservation includes any and all measures that will make the land produce more without damaging it.

Conservation Does More Than Protect the Land

Soil conservation does much more than safeguard land. It directly or indirectly causes a wide variety of benefits. It increases crop yields and lowers the cost of production. It helps check drought damage to crops, pastures, and meadows. It reduces siltation in streams, harbors, and reservoirs. It reduces flood crests on both major and minor streams. It helps to lessen damage to oyster beds and breeding and feeding grounds of fish, crabs, and other valuable aquatic life. And it helps improve the nutritional value of food grown from the land.

Farmers who are practicing conservation farming estimate that it has increased their yields by more than 30 percent. Conservation also increases the yields of grazing and forest lands.

THE SOIL CONSERVATION SERVICE

Soil conservation did not receive much attention in the United States until the 1930's. As long as we had plenty of unsettled land, conservation did not seem important. A few farmers took good care of their land; but many farmers let it erode until it was worn out and then they moved on to other land.

We didn't have a national program of soil conservation in the United States until the Soil Erosion Service was created as

an emergency agency in the United States Department of the Interior in 1933. In 1935 Congress passed our first soil conservation act. It transferred the Soil Erosion Service to the Department of Agriculture and named it the Soil Conservation Service. Since then Congress has supplemented the Soil Conservation Act with several other laws.

The early work of the Soil Conservation Service was mainly research to find better conservation methods and demonstration of those methods to farmers. Demonstration projects were set up in all parts of the country from 1933 to 1936. Farmers in these areas cooperated with the Service by installing complete conservation farming programs on their farms. These demonstrations created a lot of interest in soil conservation.

In 1937 the various States began to pass laws that permitted farmers to organize their own soil conservation districts. Then the Soil Conservation Service began to do its conservation work in cooperation with these districts.

SOIL CONSERVATION DISTRICTS

Soil conservation districts are local units of government, operating under State laws. They are organized and run by farmers. They have the authority to ask and receive help from county, State, and Federal Governments.

By 1948 all States and Territories of the Nation had passed soil conservation district laws, and more than 2,000 districts had been organized. They included more than half of all the land and more than three-fourths of all the farms. And districts were still being organized at the rate of about 10 to 15 each month.

In these self-governing districts farmers are cooperating to protect their land. The work of each farmer on his own farm fits into a district-wide plan. Farmers often work in groups, helping each other apply good land use and conservation measures to their land.

The Soil Conservation Service and other Federal and State agencies furnish technical, educational, and other types of aid to the districts.



Districts Plan for the Future

Most soil conservation districts have both short-time and long-time plans. Some erosion problems are so acute that they can't wait. Work on these critical areas must be done now to prevent severe damage to the land. Other problems can wait a few years without so much danger to the land. So the supervisors of a district usually plan to work first on those farms that need help most.

Each district makes a work plan that shows all conservation jobs that need to be done and how each job should be done. This serves as a blueprint for both the short-time and long-time plans of a district. It is made as soon as possible after the district is organized; it is based on a conservation survey that is made by soil scientists of the Soil Conservation Service.

After the work plan has been made for the district, a conservation plan is made for the individual farms of the district. These plans must be made in detail to show what each field will be used for and how it will be treated. An individual plan is needed for each farm because each farm is operated as a separate unit; yet each farm plan must dovetail into the plans for

neighboring farms to give full protection to all the land of a watershed. Such plans are made by Soil Conservation Service technicians working with the individual farmers or with groups of farmers. Like the district plans, they are based on soil conservation surveys.

SIMPLE LAND STANDARDS

Each tract of land is different. The kind of soil, the slope, the degree of erosion, and the fertility and physical condition of the land vary from place to place. And the climate varies. Altogether, there are millions of different kinds of land. In fact, no two patches of land are exactly alike.

The important things for a conservationist to know about land, however, are what it should be used for and how it should be protected to keep it productive. Soil scientists, who make conservation surveys, study each tract of land. They consider all of the things that might affect its use and conservation. Then simple maps are made that show the capability of each



acre. These maps divide land into eight classes. Here are descriptions of the eight land classes:

Land Suited for Cultivation

Class I. Very good land that can be cultivated safely with ordinary good farming methods.

Class II. Good land that can be cultivated safely with easily applied conservation practices.

Class III. Moderately good land that can be used regularly for cultivated crops in a good rotation but needs intensive conservation treatments.

Land Suited for Limited Cultivation

Class IV. Fairly good land that is best suited to pasture and hay but can be cultivated occasionally if handled with great care.

Land Not Suited for Cultivation

Class V. Land that is too wet or stony or is otherwise not fit for cultivation but needs only ordinary good management to be used safely for trees or grass.

Class VI. Land that is too steep, eroded, shallow, wet, or dry for cultivation but is suited for grazing or forestry if carefully managed.

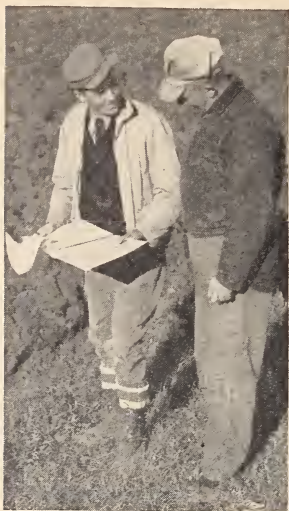
Class VII. Land that is very steep, eroded, rough, shallow, or dry but can be used for forestry or grazing if handled with great care.

Class VIII. Land that has some limitation that makes it unfit for cultivation, grazing, or forestry but that may be valuable for wildlife, recreation, or watershed protection. It includes such areas as marshes, deserts, badlands, and mountains.

HOW A CONSERVATION FARM PLAN IS MADE

Farmers and Soil Conservation Service technicians work together in making conservation farm plans. They go over the farm and study the kind of land they have to deal with on each field, pasture, or wood lot—they check with the land capability

map. The farmer tells the technician what kind of farming he wants to do—what crops he wants to grow, what livestock he has, what machinery he has, and so on. The technician points out what the land is capable of doing and what needs to be done to check erosion, control water, and keep the land productive in each field. Together, they decide which fields to use for



crops and where the pastures, meadows, and woods should be. They may decide to change some field boundaries so that all land in each field is suited for the same purpose; this may involve changing some fences and farm roads. Some cropland may have to be changed to pasture, meadow, or woods. There may be some idle land, pasture, or woodland that is suitable for cultivation.

When they have decided what each acre is to be used for, the technician and the farmer discuss the conservation measures needed on each field. They plan the crop rotations and estimate how much fertilizer or lime each field will need. They de-

cide which fields to cultivate on the contour and where to strip-crop. They determine which fields need to be terraced or drained and where to build farm ponds and grassed waterways. They decide which pastures need to be fertilized or reseeded and work out a grazing program. They plan how to manage the wood lots. They may make special plans for food and shelter for wildlife. And they figure out how many livestock the farm will carry under the new system and plan a livestock program to fit the cropping program. Then they plan how and

when the farmer will make each of the changes in land use and install the conservation measures.

When all the details are agreed upon, they are put down in a written plan that includes a simple farm map. This plan then becomes the basis for a cooperative agreement between the farmer and his soil conservation district. The district then may help the farmer get equipment, planting stock, or other materials he needs and doesn't have on his farm. The Soil Conservation Service technicians will continue to give the farmer technical help in installing the conservation measures.

This method of working out a conservation plan for each farm according to the capacity and needs of the land seems to be the most practical way to get a lasting conservation program on the land. The plan should serve as a blueprint for conservation operations for many years. But if changes in markets, prices, or other conditions make it desirable to change the plan, this is fairly easy to do.

CONSERVATION WORK DONE

By the end of 1948, more than 700,000 detailed conservation farm plans had been prepared by technicians of the Soil Conservation Service. These plans covered about 210 million acres—almost 20 percent of the farm land in the Nation.

The needed conservation measures had been installed, according to plan, on about 11 percent of our farm land—about 120 million acres. On most of the other land for which plans have been made, some conservation is being practiced but not all the measures have as yet been installed. Also there are many farmers using conservation measures on at least a part of their land who do not have complete conservation plans.

Most farmers using soil conservation measures receive conservation payments under the Agricultural Conservation Program of the United States Department of Agriculture or receive assistance on their conservation work from some other Federal or State agency.

Each year from 1946 through 1948, conservation farm plans were made for about 3 percent of the Nation's farm land. The

conservation treatment will be installed on most of this land within 1 to 5 years after the plans are made. It usually takes a farmer about that long to put all of his conservation plan into effect.

THE JOB AHEAD

We have made good progress since our national soil conservation program started in 1933, but we have made only a start. Most of the job still lies ahead. Even after we have a conservation plan for every farm and ranch we have taken only the first step toward saving our remaining land. The conservation farm plans must be carried out—not for just a few years, but for all time.

About a fourth of our cropland is now being damaged at a critical rate. Yields will be much lower on this land within the next 10 to 15 years if we don't protect it. Another fourth is eroding at a less rapid but still serious rate. This land should be protected within 15 to 30 years if it is to stay productive. This means that about half of our cropland will produce less and less each year if we continue to farm it as we have in the past. But we can conserve this land and keep it productive if we use the kind of conservation farming methods now being used on the 120 million acres of farm land that is protected.

The other half of our cropland is not in immediate danger; in fact some of it is not being damaged by erosion at all. This does not mean, however, that this land is producing all it can. Better conservation farming methods would increase production on most of it.

We have enough good land left in this Nation to keep us prosperous and well fed if we conserve it while using it. We know that we can do this; and we know how to do it. But—will we do it in time?